

Flyrock Alert to Coal Mine Operators



Coal mine related blasting activities have caused serious flyrock incidents in Virginia, as well as in surrounding states. These incidents have resulted in personal injuries, fatalities and damage to private property.

The **Virginia Coal Surface Mining Reclamation Regulations** administered by the Department of Mines, Minerals and Energy, Division of Mined Land Reclamation require blasters to be certified by the Board of Coal Mining Examiners and to design shots with sufficient burden, spacing, and stemming to prevent flyrock or other dangerous effects (§§[4VAC25-130-816.61](#), [4VAC25-130-816.67](#), [4VAC25-130-817.61](#), and [4VAC25-130-817.67](#)).

Blasters must use extreme caution and carefully consider the blast site conditions when designing shots to avoid property damage or injury to persons on or off mine property. Any violation of Virginia Coal Surface Mining Reclamation Regulations that result in personal injury or a fatality to a person, will subject the permittee to a potential civil penalty of up to \$70,000 per violation ([§45.1-246.A](#), Code of Virginia, as amended).

When designing shots for upper benches in close proximity to adjoining residential, commercial, or industrial properties, blasters should consider additional control measures to prevent flyrock including, but not limited to:

- Using smaller diameter boreholes and reducing powder factors in areas of weak or broken rock.
- Ensuring that drill pattern burden and spacing are adjusted to account for actual geologic conditions at the site.
- Orienting the free face towards an area of the pit away from adjoining private property.
- Reducing the maximum charge weight per delay period.

Each mine's [ground control plan](#) should identify areas where the potential could exist for flyrock to damage homes or pose a threat to public safety. These areas must be designated as "Red Zones" in the ground control plan and appropriate safety precautions that must be taken, as described in the ground control plan narrative.